





Harvard Medical Alumni Bulletin

Volume 27, Number 1

April, 1947

Annual Meeting—See Page 81

to combat



depression characterized by

"chronic fatigue"

Depressed patients "... suffering from psychomotor inhibition complain of feeling tired, of not being able to get started on their daily tasks, and of an abnormal inclination to procrastinate. They make up their minds that they are going to do a certain thing but they never seem to get to it. Everything seems too big for them . . ."^{*}

In the above quotation, Kamman emphasizes "chronic fatigue" as a dominant symptom in the type of depression most frequently encountered in daily practice.

Benzedrine Sulfate is particularly valuable in the presence of "chronic fatigue". It will, in most cases, help to overcome the depression and thus enable the patient to make a sincere and constructive effort to surmount his difficulties.

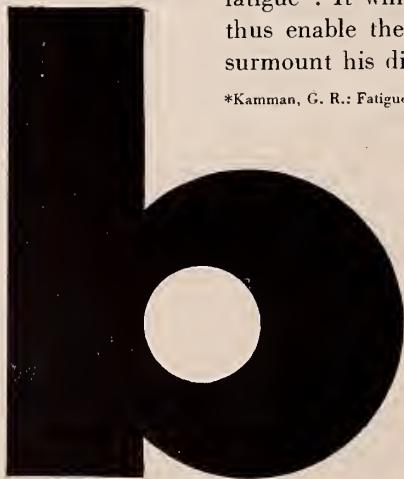
*Kamman, G. R.: Fatigue as a Symptom in Depressed Patients, *Journal-Lancet* 65:238 (July) 1945.



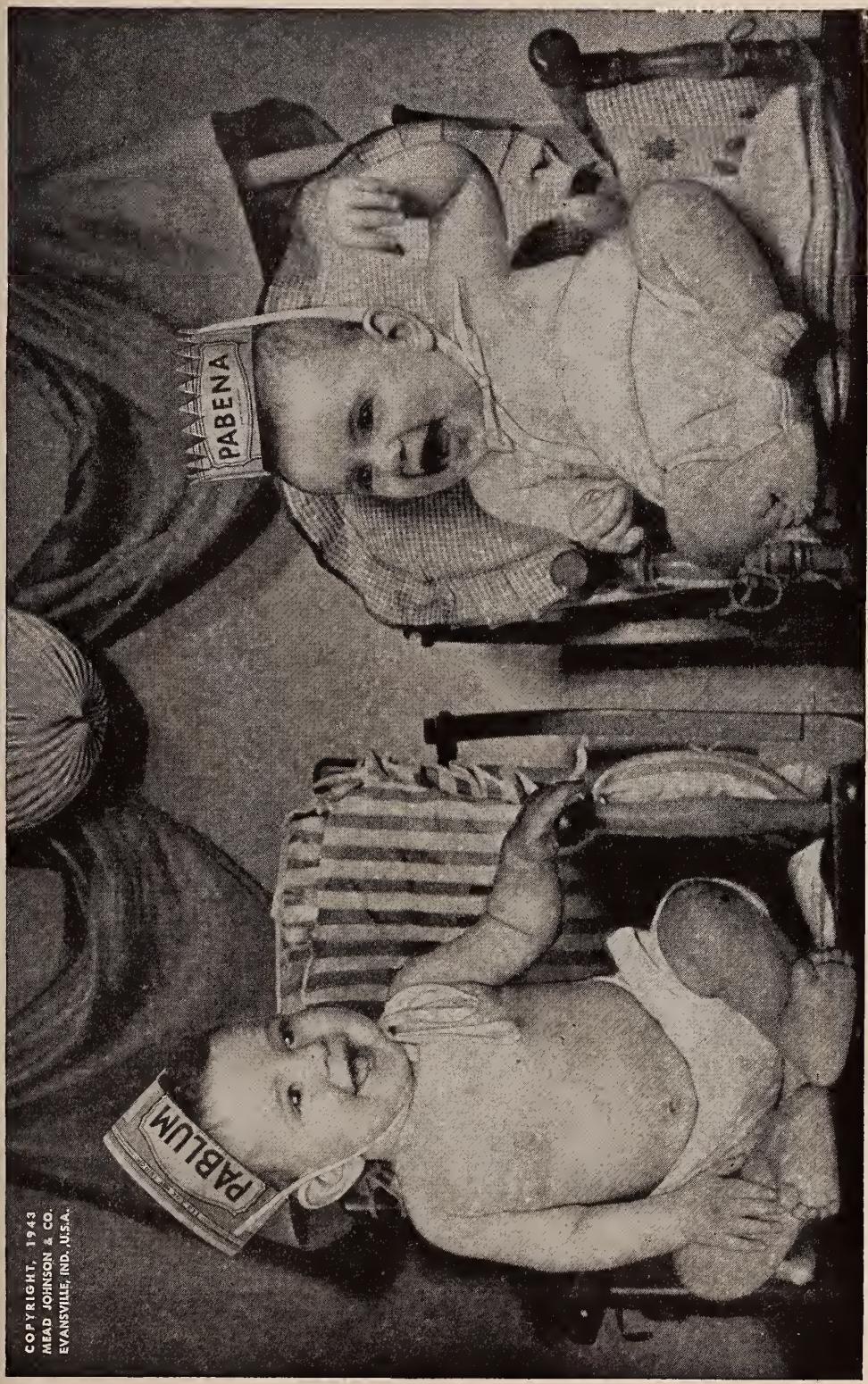
Tablets and Elixir

benzedrine sulfate

(racemic amphetamine sulfate, S.K.F.)



Smith, Kline & French Laboratories, Philadelphia, Pa.



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Medical School Notes



VANDERBILT HALL

In the October issue, mention was made of the formation of a Vanderbilt Hall Committee, and hope was expressed that the Dining Halls would soon be on a firm footing after the confusion attendant upon the shift from GI to peacetime status. In addition, an effort was to be made to make Vanderbilt Hall a more healthy influence on student life.

The first move was the appointment of a dietitian of wide experience, Miss Constance Hayes, who had in the past worked at the Massachusetts General Hospital and later as Head Dietitian for a period with the 6th General Hospital. The Dining Hall has been refinished and the meals have been improved. The Club Dining Room on the second floor has reverted to its original use, that is: for special groups and occasions, and the faculty who ate there during the war have been asked to eat with the students in the Main Dining Room. This obviously fosters a closer student-faculty relationship on an informal level.

Student life at Vanderbilt appears to be again in peacetime swing. In addition to the Boylston Medical Society meetings and the Lancet Club and Nu Sigma Nu festivities, there have been several meetings of the Medical Sociology Seminar. This is an open organization, dealing, as the name implies, with the broader aspects of medicine. The meetings have aroused considerable interest and have been well attended. The Alumni will undoubtedly be relieved to hear that it is not a "leftist" organization even though it is currently known as the "Red Peril."

Many athletic groups have been formed,



and two teams have played a regular schedule in the Massachusetts Squash Racquets League this winter. So far the changes effected since the appointment of the Committee have without question produced a more wholesome atmosphere.

INTERNSHIPS

It may interest those of the Alumni who can look back to the feverish confusion attendant upon their examinations at, and the interminable waiting to hear from the hospital of their choice, that this year an attempt is being made to substitute order for the usual chaos.

The hospitals of the United States, through the Committee on Internships and residencies of the Association of American Medical Colleges, have agreed that all applications shall be filed on 15 October 1947. On that date also, medical schools will release all credentials. The usual letters of recommendation by faculty members have been eliminated, and all information concerning applicants will come to the hospitals by way of the Dean's Office.

It has been agreed that no appointments

will be made prior to 15 November 1947, although notifications of rejection can be made at any time. In addition, and perhaps most welcome, is the news that in subsequent years the dates for filing applications and announcement of appointments will be moved to an even later date in the fourth year.

How these various changes will affect the Boston hospitals remains to be seen. Certainly, having nation-wide agreement on dates for the above procedures will eliminate the old inter-city rivalry that caused the selection of interns to be made at an increasingly earlier period in the students' career. Then, too, many secretaries of very important doctors will be relieved of a great deal of typing of letters of recommendation, and even the applicants may find the general situation more calm than in the past years.

SECOND YEAR SURGERY

The Department of Surgery, believing that the multiplicity of therapies and the ever-increasing number of research projects, and the resultant growth of knowledge in the field of modern medicine, require a reconsideration of teaching philosophies and methods, have altered the course in second year surgery.

Heretofore, the second year student has been exposed to a series of lectures on inflammation, a course in bandaging, splinting, clinics and lectures on fractures.

This year, with the cooperation of the Department of Medicine, the class has been split into groups of eight for the purpose of instruction in physical diagnosis from a surgical point of view. The Department of Surgery in each hospital to which the various groups are assigned then determines and carries out its own ideas and methods of instruction. It is interesting to observe that there is considerable variation in opinion as to how this should best be done. Some institutions have set

up a somewhat formal schedule, by means of which subjects are taught by those best qualified to teach them. In other institutions a preceptor is appointed for each group, and it is he who does the greater part of the instruction throughout the period and determines the manner in which it is carried out.

In general, it is the purpose of the Department of Surgery that the students will acquire the knowledge and experience which will enable them to conduct a satisfactory examination of a surgical patient including the major specialities, and to recognize the usual signs and symptoms of disease. Examples only of surgical diseases are considered for the most part, and no attempt is being made to illustrate the entire field of surgery. Thus the student should come to third year surgery with, at least, a knowledge of how to use the instruments and faculties at his command, and it is hoped that he may be thus fitted to serve as a junior clerk in the Surgical Wards rather than limit his work to the Out Patient Department.

The cooperation of the Department of Medicine has been secured in order that the greatest possible correlation with the medical course in physical diagnosis be secured.

* * *

Correction: In the Medical School Notes in the January issue, under the heading "Pediatrics," an error of omission was made. The first sentence of the fourth paragraph should have read:

The extension of the pediatric facilities at the Massachusetts General Hospital by the completion of the Burnham Memorial Hospital for Children this summer will provide a diagnostic and special treatment center for infants, children and adolescents at the Massachusetts General Hospital and the Massachusetts Eye and Ear Infirmary with approximately 150 beds and extensive facilities for ambulatory patients.

Roentgenology at Harvard

MERRILL C. SOSMAN, M.D.

On October 30, 1944 the Administrative Board of the Harvard Medical School voted to establish Roentgenology as a separate department. This was approved by the Corporation on April 2, 1945 and the title was officially changed from "Roentgenology" to "Radiology." The BULLETIN has been urging me since that time to write an article on the history of X-ray in teaching at Harvard Medical School. Unfortunately, there is very little on the subject in any of the archives as far as can be determined. The names, dates, and titles of the early appointees are available but that is about all the information to be had from official sources. Therefore, I wrote to some of the alumni of the classes from 1896 to 1922 for memories and recollections of their student days. We received a high percentage of answers, with many interesting sidelights on the early days of X-ray at the Medical School among them. This history of the earliest years is largely an abstract and consolidation of those letters, only the last 25 years being reported from personal knowledge and observation. A sincere appreciation for the many answers to my queries is herewith expressed,

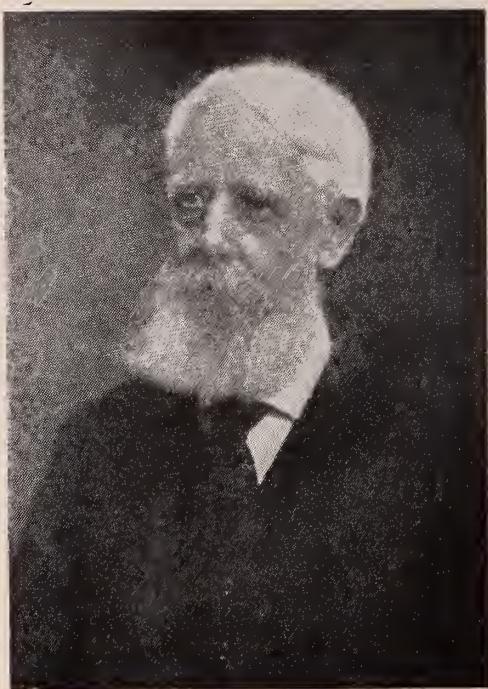
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The ink was hardly dry on the papers reporting Roentgen's discovery in January 1896 before X-rays were being made in Boston. The pioneers of that day were William Rollins, the dentist, whose "Notes on X-light" were collected and privately published in 1904;¹ Francis H. Williams, the internist at Boston City Hospital, who had the help of Rollins; E. A.

1. Rollins' contributions or "Notes" were published for the most part in the "Electrical Review." The collection as published in 1904 includes 181 "Notes," the first one dated March 1896, and 152 illustrations. This book is a veritable mine of information, chiefly on the technical and physical aspects of X-ray tubes and equipment in those early days.

Codman, who was qualified as an "Expert in X-ray" in a Boston court in April of 1896; Professor Elihu Thomson of the Massachusetts Institute of Technology, later of the General Electric Company; Percy Brown at the Children's Hospital; Walter Dodd, then the pharmacist at the Massachusetts General Hospital; and a little later Walter Cannon, then a second year student at Harvard Medical School. Most of these men, except Williams and Rollins, received X-ray burns, some of them severe enough eventually to cause death, as in Dodd's case. Williams apparently learned quickly that the new rays were dangerous as well as helpful, and was always very careful to protect himself. As a result, he had no X-ray dermatitis on his hands at the time of his death in 1936 at the age of 78, although he used the fluoroscope regularly and frequently in his work at the City Hospital. Of this group, Williams and Dodd did the first teaching with X-rays at Harvard. Cannon in later years used his experiments on the gastric and intestinal motility in animals as part of his teaching in Physiology. Williams did no regularly assigned teaching with X-rays, but whenever he could persuade a student or house officer to spare the time, he would delight in showing them what could be seen in the chest of any convenient patient. Williams' work, although exceptionally thorough and painstaking, fell largely on sterile ground, and he has never received the credit due him. Cushing, in Osler's biography, tells of Williams' paper at the meeting of the American Association of Physicians, May 1, 1896:

"On May 1st the Association of Physicians, with Abraham Jacobi as President, held its eleventh annual session. The four events of the meeting of chief historical interest were: the action taken protesting against the antivivisection legis-



DR. FRANCIS HENRY WILLIAMS
1852-1936

lation which shortly before had been introduced in Congress (Senate Bill #1552); the great number of articles on diphtheria, its toxin and antitoxin; Theobald Smith's paper differentiating human and bovine strains of the bacillus of tuberculosis; and the paper by Francis H. Williams on the X-ray in Medicine. Roentgen's discovery announced the year before from his laboratory in Wurzburg was, from the outset, obviously adaptable to the diagnosis of many surgical lesions, but Dr. Williams' audience could hardly have realized when listening to his brief account of the fluoroscopic examination of an enlarged heart, of a case of pneumonia, and of two cases of pulmonary consumption, that the X-ray would become a diagnostic aid of such reliability in thoracic diseases that Auenbrugger and Laennec would soon have to make room for Roentgen on their pedestal. Though in the discussion of Williams' paper Osler asked about the possible fluoroscopy of gall-stones, not even

his imagination could foresee that the X-ray would have an effect on medicine almost as revolutionary as the gifts of just 100 and just 50 years before, namely, Jenner's vaccination and Morton's demonstration of surgical anaesthesia.¹

Walter Dodd was the first and the best of the early teachers of X-ray. Serving originally as apothecary, he was not officially appointed as "Instructor in the Use of the Roentgen Ray" until September 1909, changed to "Instructor in Roentgenology" in 1913. But there was some teaching *by means of X-ray* before that date, practically all of it by clinical men in other branches of medicine, usually in association with patients either in clinics or on ward rounds. Until about 1918 all of the X-rays were made on glass plates, and films were slow to be accepted, as they were at first difficult to handle and not too perfect even when properly used. It was often customary, therefore, to end ward rounds in the X-ray Department to view the plates² of an interesting case, as it was laborious and even sometimes dangerous to carry more than a couple of X-rays to ward rounds or clinics. In fact, one of my alumni collaborators writes: "As a surgical clinical clerk at the B.C.H. it was my duty to carry heavy glass X-ray plates from the X-ray Department to the operating room. My hands and fingers were criss-crossed by cuts from the glass plates and I have been round-shouldered since then. Woe to any student who dropped and broke a plate,—he was sure to flunk the course." (Benedict Olch, 1919).

The chief use of X-ray "plates" in the 1896-1910 period was for demonstration of fractures or foreign bodies as a supplement to, or confirmation of, the clinical diagno-

1. Harvey Cushing: *The Life of Sir William Osler*, Volume I, page 434.

2. Habit is a peculiar thing. For 25 years I have waged a campaign against calling modern X-rays, "plates." The custom, however, still persists, not only in the older generation but also by unconscious imitation in the present generation of house officers and residents.

sis. Many of my correspondents have refreshed their memories with their notes taken during lectures and clinics, and several mentioned that they had been advised to "use an anesthetic to detect crepitus in the injured member" before sending the patient for X-ray examination! The X-rays of the chest were also used in clinics, but not much reliance was placed upon the findings, while the students were taught that careful physical examination was much more trustworthy than X-ray plates.¹ This belief was common to the older generation of well-trained clinicians, some of whom had an uncanny aptitude for locating and identifying intrathoracic disease. The best of the clinicians in those days were really experts in physical diagnosis, but it was the result of long years of patient study and constant practice, and they reached that high state of efficiency only with the collateral acquisition of knowledge and judgment. They naturally resented any mechanical method which tended to supplant their hard-earned skills. For years the phthisiologists insisted that the physical findings were much more to be trusted than the shadows on a photographic plate. Undoubtedly they were right at first, as no one had acquired the judgment and experience in reading chest X-rays in any way equal to or even approaching the clinical skill acquired by the best of the internists. Only recently the last surviving member of this cult, who believed that physical examination could detect pulmonary tuberculosis earlier and more accurately than X-ray, passed to his reward. The intra-abdominal organs yielded more slowly to technical advances in X-ray and it was well after 1910 that gas-

tro-intestinal and genito-urinary X-rays were used to any extent in teaching clinics.

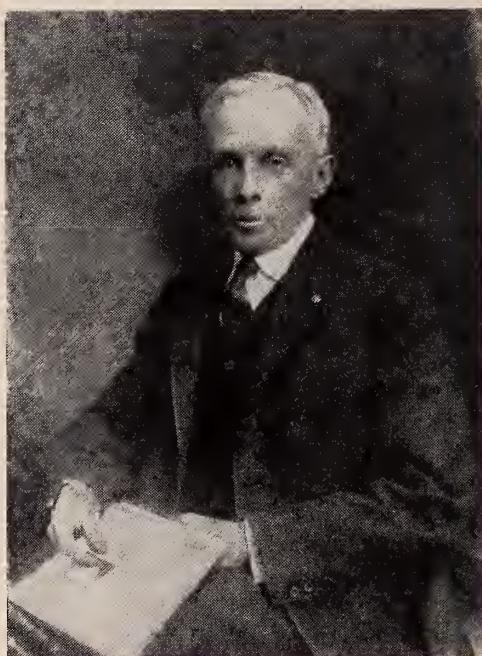
The early history of teaching by means of X-rays, therefore, is inextricably bound up with the other specialties. There was no teaching of roentgenology as such to students, but they were shown some X-rays by the various teachers as part of the patients' examination, and the correlation left much to be desired. Most of the graduates of those early years first came into contact with X-ray during their internships. Many interesting stories have been sent in, and I wish I could quote them all, but the theme is much the same,—at first a back-breaking, hand-blistering job of turning the huge glass plates of a static machine, usually borrowed from the Neurological Department, and then a period of blessed rest while the plate was being developed, all too often with negative results,—and no pun intended. Much of this work was done after hours, at night, or on Sundays and holidays, and it seems that there was often some confusion and conjecture in the "nerve" department when the static machine seemed worn out in the morning although it had been in good shape the afternoon before. Harvey Cushing mentions the "grinding out of X-ray plates" with the help of E. A. Codman during his internship at M.G.H. in 1895-96.

The technical quality of the X-rays was a major limiting factor in their use in teaching. Most of the early X-ray plates left much to be desired. Technic, experience, and judgment develop concurrently. Major technical advances came slowly,—first the transformer in place of the coil and mechanical interruptor, which had succeeded the static machine; next the Coolidge tube; then films instead of plates; the Potter-Bucky diaphragm; more powerful machines, tubes, and screens resulting in shorter exposures; and most recently the Hodges-Morgan automatic phototimer, used at present only in mass chest screening. As equipment improved and more consistent results were produced, the X-ray examinations were more frequently

1. The inability to hear the sounds one was supposed to detect sometimes determined a man's career. For example, one graduate of 1898 writes: "I remember I was taught auscultation and percussion which was considered extremely important at that time by Dr. W. W. Gannett at the M.G.H., an expert in that line. I was never able to hear the sounds or elicit the signs described, and decided at that time I could never be an internist, and must necessarily be a surgeon."

demanded and used, but still for the most part in fracture and foreign body cases. Similarly, as the demand for X-rays increased, certain individuals became more interested in trying to correlate the findings with clinical facts, and the specialty slowly developed. This was either in the whole field of X-ray procedure, as in the case of Walter Dodd, or in the field of one's chief interest, as in the case of Francis Williams in chest diseases. Chance, then as now, often determined the choice. Williams was particularly well prepared because of his previous technical training at M.I.T. where he took his premedical years. Dodd entered the field because of his interest and skill in photography, which was an important phase of the technical work of producing good X-ray plates in those days. Percy Brown, like Williams, had received a technical training, but at the Lawrence Scientific School (later the School of Engineering at Harvard). He turned naturally to the new field which required considerable knowledge of electricity and physics. Cannon, Codman, and

others were lead into the subject by their naturally inquiring minds and investigative spirits. For many years it was uncertain whether the new method of examination would be used independently by the men in different branches of medicine and surgery, or whether it would develop into a separate specialty. As late as 1911, Cushing and Christian in a joint letter to the Trustees of the new Peter Bent Brigham Hospital saw no need for the services of a roentgenologist, specifying: "In regard to a roentgenologist we have put down no salary figure. This Department will probably involve the employment of one or more technical assistants not graduates in medicine, with the probable supervision of a resident or visiting graduate in medicine."¹ By contrast, the Children's Hospital established a Department of Roentgenology in 1903 under Percy Brown, and the M.G.H. established its Department of Roentgenology in 1907. At that time, even before he returned from the University of Vermont with his newly-won M.D. degree in 1908, Walter Dodd was appointed "Skiagrapher" at the M.G.H.² Dodd and his assistant, Joe Godsoe, had for many years been doing the X-ray work in their spare time as they were officially the Pharmacists to the Hospital. Dodd won the respect and affection of everyone on the M.G.H. staff by his careful, painstaking work and by his ever-willing self-sacrifice. Percy Brown (1900) says the following of him: "Dr. Walter Dodd, practical instructor *par excellence* as well as Radiologist at the Massachusetts General Hospital, was truly an integral part of that institution. Everyone interested in roentgenology went to his laboratory for instruction and advice in the clinical application of this subject. He was friend and advisor to nearly every member of its medical staff, especially the younger of them." Harris P. Mosher (1896) pays him the following tribute: "It was only a matter of a few months (if that long) after Roentgen announced



DR. PERCY BROWN
Taken about 1922

1. John Fulton: Harvey Cushing, page 349.
2. M.G.H. Annual Report, 1907.

his discovery of the X-ray before Walter Dodd, the head apothecary at the Massachusetts General Hospital procured a Crooke's tube and began the use of X-ray. Walter, as he was universally known, had long been photographer to the hospital and every set of house officers graduated with a group picture taken by him.

"The first X-ray room was in one of the vaulted, dungeon-like small rooms under the front steps of the Bulfinch building. Like all the house officers I became intensely excited about the possibilities of the new discovery. One of the very first pictures taken was of a needle in the palm of a hand. This went the rounds of the hospital and excited the wonder of everybody. We all thought and said, 'how easy it now will be just to cut down on the needle and remove it instead of fishing aimlessly for it as had been the custom.' At the operation for the removal of the needle, as has since been found, finding it was not as easy as it looked, but the needle was found and removed. Everyone sensed, however, that a new era had dawned in surgery. The year was 1897 or 1898, the years I was House Officer under Dr. Warren,—"Colonel" Warren as he was affectionately called by us.

"After the first use of the X-ray on the needle in the palm we were all on the watch for fracture cases. I recall one morning between one and two o'clock, a brakeman was brought to the accident room. He had been swept off the top of a freight-car by a low bridge and had multiple fractures. The question was how many did he have and where were they. Dr. Dodd and the rest of us hovered over the patient almost like vultures. I can see the scene now very vividly as the patient lay on the table in that small, crypt-like room. I can feel the excitement and the weirdness of it all even now although this, which was one of the most dramatic happenings of my surgical career, occurred forty-eight years ago.

"Presently a beginning tragedy started. Walter began to show X-ray burns of his hands, and as it proved, he was one of the



DR. WALTER JAMES DODD
1869-1916

very first martyrs to the X-ray. Bit by bit he lost finger after finger¹ until nearly all the fingers of both hands were mere stumps. He kept at his work with his mutilated gloved hands, never complaining and always cheerful. Everybody warned him when the danger became evident, but he would not give up his work and was always eager for the next case." Dodd's teaching, however, was limited mostly to his colleagues and the House Staff at the M.G.H.

Williams' work at the City Hospital has already been mentioned but deserves more

1. These biopsies and amputations were carefully and thoroughly studied by S. Burt Wolbach, along with other similar material, and were the beginning of the histopathological studies of the effects of irradiation on human tissues. Wolbach's report ("Summary of the Effects of Repeated Roentgen-Ray Exposures Upon the Human Skin, Antecedent to the Formation of Carcinoma") is still one of the classic treatises, and his interpretation of the sequence of events following irradiation is still accepted today.

notice. He apparently saw clearly the great future in Roentgenology and did his best to convert all and sundry to his beliefs, but with little success. His book, "The Roentgen Rays in Medicine and Surgery," published in 1901 and reprinted in 1904, is a classic on pulmonary diseases, and a monument to his keen observation and logical deduction. Many students were exposed to his stimulating and challenging work but, encouraged perhaps by the older self-satisfied clinicians, they chose to ignore the claims for the new method put forward by this modest, retiring and rather sensitive instructor. One disciple, Sam Ellsworth, and later another, Paul Butler, with the help of Mr. Fewkes the photographer, eventually put a Department of Roentgenology on a stable footing at the City Hospital. Williams, however, went his own way in the Department of Medicine,¹ still making keen observations and important contributions through his old fashioned fluoroscope. I wish there were time and space to mention half-a-hundred of the ingenious instruments and experiments which Williams and Rollins thought up, made, and performed. One of them, the "See-Hear," *must* be mentioned,—an ingenious combination method of simultaneous auditory and visual study of the heart and lungs. The back of the fluoroscopic screen was a thin-walled air chamber, to which were attached the arms and earpieces of a stethoscope, which in turn could be fixed in the observer's ears leaving both hands free to manipulate the machine and screen. This was pressed against the patient's chest, the uncertain X-ray turned on, and the heart and lungs could then be seen as well as heard! Descriptions of this and many other early methods of study and investigation are published in Rollins' "Notes on X-Light."

At The Children's Hospital at that time

1. Francis Williams never held an appointment in Roentgenology from the School, but was successively Instructor in Materia Medica and Therapeutics in 1885-86, and Assistant Professor of Therapeutics, 1889-91. He also held the title in the Boston City Hospital of Visiting Physician, 1896-1913, and of Senior Physician, 1913-30.

a brick structure on Huntington Avenue, as well as at other hospitals, the young surgeons from the Massachusetts General Hospital, who showed so much interest in the New Science, were instrumental in the acquisition of apparatus. Codman, Osgood, Vose, Simmons, and Allen spent much time at this Out-Patient Department. Once satisfied with the value of X-rays in their own work, such men as these were willing to turn over the details of roentgenology to one appointed for the purpose, and in 1903 the Department was organized under the supervision of Dr. Percy Brown who had been nominated Roentgenologist to this institution

"The first X-ray department at the Children's was limited in its function by reason of the fact that the hospital was not equipped with electric current, and was obliged to obtain its power from the Opera House nearby. A wire was run from the Opera House to the Hospital, but when there was no music there was no current. No opera, no X-rays!" (Percy Brown, 1900)

At the Medical School during this period, Thomas (Tommy) Dwight was using the X-ray as an adjunct to his studies in anatomy, particularly on the accessory bones of the hands and feet, and he often called on Walter Dodd and Percy Brown for help in X-raying his material, with mutual benefit. About 1906 Arial George, then one of the young specialists in Roentgenology, was asked to demonstrate anatomy by X-rays to the students, which was then being done to a greater or lesser degree in many medical schools. George was "Assistant in Anatomy" 1907-09, and "Assistant in the Use of the Roentgen Ray" 1909-13, along with Percy Brown. The patients in the Anatomy Department were much more satisfactory to work with than patients in the clinics, as unknown shadows could be run down promptly, and the "patients" never complained of burns!

Also at the Medical School, Walter Cannon was pursuing his studies on the motility of stomach and intestines, spending hours on end, day after day, leaning over

the fluoroscopic screen, all the while making notes and sketches, some of which are preserved in the Harvard Medical Library. The new screens from Europe, obtained by Percy Brown, helped greatly in this work. As Dr. Cannon told me shortly before he died, some of those early observations led to his continued interest and productive study of bodily changes in hunger, fear, and rage.

All of this early period, therefore, was one of sporadic, haphazard and intermittent contact with X-rays as far as the medical students were concerned. Many of my correspondents maintain that they never saw an X-ray or a fluoroscopic examination all the time they were in medical school. Others had different experiences. Roger Lee, (1905) for one, writes as follows: "My only recollection of the use of X-ray with teaching was its incidental introduction in the case of fractures. The development of the X-ray at the Massachusetts General Hospital was the work of Dr. Walter J. Dodd, with the assistance of Joe Godsoe. When Dr. Dodd began working with the X-ray, in the last part of the 19th century, he was then in charge of the Apothecary, and the X-ray Department became an annex of the Apothecary. Mr. Godsoe was his assistant. Dr. Dodd was already badly burned before 1900. His hands were always bandaged. He went away long enough to get an M.D. degree from the University of Vermont. I was an interne on the Medical Service at the Massachusetts General Hospital from 1905-07. As I recall it, the X-ray was largely used for cases of fracture just as it was in my student days. There was some attempt to develop more penetrating X-rays. These attempts were often carried on at night. The sources of electricity were frequently an electric machine which gave off sparks and was highly thought of in the Nerve Department

"In 1907-08, I had on my service at the House of the Good Samaritan, a young woman whose stomach rumbled loudly and actively. Dr. Dodd and I thought it would be a good idea to give her some

bismuth as was being currently developed for diagnostic purposes. Consequently, I brought her down to the Apothecary of the Massachusetts General Hospital. I had asked Dr. Walter B. Cannon, eminent physiologist at the Harvard Medical School who had done some work on the X-rays, and Dr. Nathaniel Bowditch Potter of New York and later of Santa Barbara, who happened to be in Boston, to be there. There were others at this demonstration. Dr. Dodd fed the young woman some bismuth and we peered through the fluoroscope. My impression of the picture was that of a Whistler's "Sunrise." Anyway, Dr. Cannon said that from a physiologic point of view it was impossible to come to the conclusion that that was not a pathological stomach. I had made a somewhat cynical diagnosis of gastric neurosis. Subsequently the patient was operated on and a posterior gastro-enterostomy was done, but her stomach roared and rumbled just the same. In those days, we used to peer at the chests of some of the patients, but the machines were not capable of outlining the organs and I remember very well the derision which greeted a statement that some time the X-ray would show the lung structure and the size of the heart. That must have been about 1908."

Channing Frothingham (1906), who had most of his contact with X-ray at the City Hospital with Williams, writes: "I recall well . . . as a house officer at the Boston City Hospital in 1906-07 that Dr. Francis H. Williams interested a few of us in a voluntary exercise for a few afternoons at which he showed us the possibilities of diagnosing by X-ray diseases of the lung. At that time his claims seemed to some of us credulous house officers as being worth paying attention to, but the reactionary attitude of those who felt that more could be heard with a stethoscope than seen by the X-ray made us cautious to tackle such a revolutionary method of diagnosis." Some of the students did see X-rays and even fluoroscopy, however, although needless to say, all was not clear

from their accounts. Harold Bowditch (1909) writes: "So far as I remember there was no formal course on the use of the X-ray, that is in the way of lectures and demonstrations. I have just gone over all the lecture notes which I kept in 1905-09 and found nothing on the X-ray . . . I do remember that in fluoroscopy the instructor pointed out a lot of things which he said he could see, but all that I ever got out of it was that there was something moving,—presumably the heart. Well, at least that proved that fluoroscopy was not fatal!"¹

Jim Means (1911) recalls several vivid memories, as follows: "What do I remember about X-ray in my student days: Well, let me see. I remember that Cannon showed us some of his pioneer experiments on the function of the cat's intestine, studied by means of barium meals. I remember that the late Thomas Morgan Rotch made a great to-do about the fact that it was better to call it the 'Roentgen-ray' than the 'X-ray.' I think that is about all he got across to us on the subject. I further remember that somebody, I can't remember who,² had us in a darkroom at the B.C.H. one morning in a very close space examining with fluoroscope patients in varying degrees of TB, some of them fairly advanced. I recall being very much distressed about this because I thought I would unquestionably presently come down with TB." His classmate, Paul White (1911) writes that Professor Thomas Morgan Rotch, head of the Pediatric Department of the old Children's Hospital on Huntington Avenue, felt the distinction between "X-rays" and the "Roentgen-rays" an important one to demonstrate the superior culture of the Harvard Medical student. Edward Wentworth (1913) also writes: "I don't think I ever saw a picture of a chest or a bone tumor, but of that I can't be sure. Certainly we weren't allowed to learn any-

thing about the heart from its skiagraph. I think something was being said about the flaring and roughened metaphyses in rachitis (never rickets in Rotch's day)."

In 1910 Dr. George W. Holmes was appointed as assistant to Walter Dodd at the M.G.H. and shortly thereafter the students were exposed to systematic attempts to explain X-rays together with the part they could play in medicine and surgery. Curiously enough, and in no way related as are cause and effect, I am sure, this was the same period selected by the philosophizing Lawrence Henderson as the end of the fifty-fifty or even-chance period in medicine. His statement, as quoted by Alan Gregg recently, was something like this: "It was about 1912 when the random patient with a random disease consulting a physician at random stood a slightly better-than-even-chance of profiting other than psychologically from the encounter." But certainly those students who encountered Dr. Holmes at random stood a much better-than-even chance of profiting from the experience. Holmes inaugurated the modern teaching of roentgenology to the medical students at Harvard, giving a few formal lectures to the third year class,—always a chore for him,—and an elective course of one month in the fourth year, started in 1910. Holmes was at his best, however, with a small group of students in informal discussions of X-rays and their potentialities. One of his most valuable teaching exercises was that given to small groups of students (4 to 6) who spent one hour a week for 12 weeks listening to his interpretations and discussions of cases, and partaking in the discussion at his invitation. Two other valuable contributions of Holmes' to teaching have been the Tumor Clinic, where problems of diagnosis and therapy can be discussed jointly by the internist, surgeon, and radiologist, and the X-ray Seminar, where interesting cases are presented and discussed and the X-rays honestly evaluated. Unfortunately, these innovations were mostly for the benefit of the patients (the Tumor Clinic) or the House Staff (the

1. Probably a case of insufficient time for dark-adaptation of the visual apparatus. (M.C.S.)

2. Probably the indefatigable Williams. (M.C.S.)

Seminar) rather than the students. Roentgenology then was under the Department of Surgery, with no budget, and Dr. Holmes, who became titular head of the subdepartment after Walter Dodd died in 1916, held only the rank of Assistant in Roentgenology at that time. Similar teaching exercises were carried on at the Brigham, first by Alfred Luger in 1913-14, and Gladys Carr, 1914-17. At the City Hospital Paul Butler and his part-time staff gave similar exercises. Percy Brown at this time was in France with Cushing's unit, Base Hospital 5. On the whole the instruction was quite adequate for that period, and the greatest effort, then as now, was given to the instruction of the resident staff in Roentgenology. Walter Allen (1915) hits the nail on the head with the remark that "Radiology of 1911-15, placed in proper perspective, will be found to be good radiology." Alan Gregg (1916) was impressed by the overcrowded rooms in the X-ray departments at M.G.H., City, and Brigham, and the overload which was even then placed upon the departments by demands of routine work, leaving very little time for investigation and teaching. He concludes with the pertinent observation that "a new technique always suffers from the failure of the leading teachers to take out time enough among their existing duties to learn the real nature of the new tool and to make logical and adequate provisions for its presentation to students. I suspect that we shall have techniques in the future which will call for assimilation by mature or elderly teachers in much the same way that X-ray did, and I am keen for the use of history in order to prepare one's self for the future. Santayana's remark, to the effect that he who neglects history is likely to repeat it, is a sound observation."

Holmes was systematic and thorough in what little time he had for teaching. Phillips Greene (1919) gives the following details: "As I remember he gave a few lectures to the class as a whole, I think at the beginning of our junior year. They covered the simple fundamental principles

of physics which make X-ray work possible and something on the different kinds of rays and the use of contrast media. Another lecture was on the importance of correct position and a knowledge of normal anatomy with a special emphasis on the differences of bones at the different ages. A third lecture dealt with common difficulties of interpretation, frequency of artefacts, risks from X-ray burn, etc. He also gave us a series of demonstrations of X-ray readings. One was largely on conditions of the lungs; another, gastro-intestinal with special reference to peptic ulcer; and third, fractures with special reference to difficult areas like the skull and spine where he emphasized the need of retaking pictures after suitable elapse of time to pick up fractures which were not evident on the first plates." Holmes, however, was modest about his work and his specialty and never pressed for recognition. It was not until 1931 that he was made Clinical Professor of Roentgenology, and then at the recommendation of Harvey Cushing. Roentgenology remained a handmaiden to the Department of Surgery until the big shake-up and redistribution of the ancillary specialties in 1929 when it was transferred to Medicine with the promise of a budget for research and teaching, and more time allotment in the clinical years of the curriculum. Unfortunately, a general financial restraining order and the subsequent depression prevented any real change in the status or in the official teaching assignments.

The present head of the department was appointed Clinical Professor of Roentgenology in September of 1940, and the title was changed to Clinical Professor of Radiology in 1945, when the department was made a separate one as noted above. Radiology at the present time has 16 members on the faculty as listed below; a small but autonomous budget; no endowment as yet although one is in prospect; and a fairly diversified teaching assignment, both required and elective. In the first year the students in anatomy are given demonstrations and clinics using X-ray films and



X-RAY OF A FOOT WITH OSTEochondroma OF FIBULA, TAKEN BY DR. ERNEST AMORY CODMAN IN 1896

slides to point out the important anatomical structures and interrelationships as seen in the wards and clinics. Important congenital anomalies are stressed, bone growth and both normal and abnormal development are demonstrated and explained, all following the gross demonstrations and lectures by Dr. Robert (Bobby) Green. In the past two years since this plan was started, the X-ray demonstrations have been given twice a week, Monday and Wednesday afternoons at 4:30, but for the coming year we plan to cut the number in half and give only one session a week for the 16 weeks of anatomy. The sessions are voluntary and no examination questions are asked, but almost the entire class attends the clinics. A question period of 15 minutes follows each 45-minute demonstration, and the type of question gives a revealing insight into the students' train of thought,—mostly intelligent questions concerning the clinical application of demonstrated conditions. The students so far have evinced considerable interest and en-

thusiasm for the series, as it makes their work more realistic, and correlates it with future clinical application. Our attempt, of course, is always to teach and explain anatomy by means of X-rays, not to teach radiology. One of the most important objectives of the first two years in medical school is the acquisition of an understanding vocabulary, and this course certainly helps in that direction.

In physiology, Dr. Landis has asked us to give demonstrations of fluoroscopy of the chest, heart, and gastro-intestinal tract to each student, and this has been done on a regular schedule each year for the past three years. One quarter of the class is "briefed" on what is to be demonstrated and then sections of 5 or 6 students, after proper dark-adaptation of their eyes, are shown the normal physiology of respiration, heart action, the swallowing function, and peristalsis in the stomach and intestines. Each student acts at one time or another as the "subject," which undoubtedly adds to the interest and value of the experiment. Participation by the student is most valuable in any form of teaching or experiment, and the trend away from formal lectures toward group participation is one of the striking advances in pedagogy in the past two decades. It is the keynote of our resident form of training in the specialties, and happily is being extended back into the pre-clinical years. The entire class in physiology also shares the experience of two students who voluntarily undergo a cholecystogram and an intravenous urogram, the two outstanding examples of physiological testing of organs through radiological means.

In pathology, selected films of gross pathological conditions have been loaned to the demonstrators, but their use varies with the interest and enthusiasm of the instructor. Again the attempt is to correlate what is seen in the gross specimens and under the microscope with what they will see later in the wards and clinics. With the exception of a few men who go into pathology and surgery, nearly all the demonstrable pathological and ana-

tomical abnormalities will be seen only by means of X-ray examination, once the student has finished his second year. Miliary tuberculosis, for example, is much more graphic and more easily understood from an X-ray film than from a gross specimen, however well-prepared. Similarly the tumors and diseases of bones are more easily seen and appreciated on the X-ray film in conjunction with the gross specimen than by any amount of description or photographic material. The majority of students learn by visual memory and the radiological method is the "bringing of sight into the invisible portions of the body," as Dr. Charles Mayo once said.

In the third year there has been a short series of eight informal clinics and demonstrations covering all of the major organs and systems in the body. These are given in the hospitals during the medical trimester by the heads of the Departments of Radiology, and the aim again is to teach clinical medicine and to correlate the X-ray findings with clinical signs and symptoms, prognosis and treatment. Each instructor teaches in his own way, of course, but each is urged to encourage questions and discussion. In addition to these clinics, 7 lectures are given the whole class,—one each on examination of the heart, the lungs, the gastro-intestinal tract, bones, and skulls and sinuses, as well as one on pediatric radiology and another on X-ray and radium therapy. At some hospitals, students in their surgical trimester spend the equivalent of two mornings seeing the routine work of the department. Students are urged to follow up their patients to the X-ray Department, but this does not work well owing to the crowded conditions. Some further use of X-rays is made, of course, in ward rounds and special clinics, but the teaching there is done by the specialty groups and its character and quality is unknown to us except by hearsay.

In the fourth year, an elective course of one month is given, lasting all day, every day. Here the students see a large amount of clinical material from many sources. These students also attend all the teach-

ing clinics in which radiology participates. This elective has been a very popular one, this year particularly, as the present fourth year class has been fortunate in having 3 extra months for electives. Well over half the class has already taken such a month's course in radiology at one of the major hospitals. To accommodate the increased demand, such courses are offered simultaneously at the City, M.G.H., Brigham, Children's, Beth Israel, and the Deaconess-Palmer Hospitals. The elective is not an organized teaching course, but rather an opportunity for the student to see a large amount of work of an extremely varied type. The value of the month depends largely on the amount of time the department heads keep available for answering questions, outlining basic principles, assigning reading or small projects, and, in short, for personal attention to the student. The students participate to a greater or lesser degree in the routine work, depending upon their natural ability, maturity, and desire to cooperate. One recent graduate, in answer to a question as to his responsibility for patients while a student, replied: "My greatest responsibility was that of nozzle-man on Sosman's enema squad!" The consensus seems to be that a month in a good X-ray Department is a great way to review about everything in medicine and surgery from a different point of view.

The greatest deficiency in the teaching of radiology at Harvard is the almost complete lack of instruction in X-ray and radium therapy,—for that matter in the handling of malignant disease in general. A single lecture is given in the third year on the physical basis of irradiation therapy, and a few students come in contact with the tumor clinics, or in their elective month with a reasonable number of problems in the care of patients with malignant tumors. They are also given two lectures on "Cancer" by Dr. Joseph Aub, and one on "Hodgkin's Disease" and "Leukemia" by Dr. Henry Jackson. A fourth year elective in the diagnosis and treatment of malignant conditions, given joint-

ly by the surgical specialists, the radiologists, pathologists, oncologists, and biophysicists, should be the minimum offered to Harvard students. With the present interest in hormone therapy, new chemical compounds, radioactive isotopes, and supervoltage X-ray therapy, even more might be offered. After all, the best one can offer is an opportunity to learn. The men and the material are available. New technics in teaching have to be tried constantly, as the average student in medicine today seems to develop an amazing resistance to the acquisition of knowledge unless he finds it out for himself, or his interest is stimulated or challenged by a new approach to an old problem.

To summarize this rambling history of Roentgenology at Harvard, may I say: that there was only sporadic teaching by means of X-ray from 1896 to about 1910 and often that was done against the pressure of tradition; that radiology has been well-taught from 1910 on, pari-passu with the development of technical facilities, new methods, and above all the development of teachers in the specialty such as George W. Holmes; that today radiology is well taught at Harvard, not as a specialty (which is done only in post-graduate and resident training) but as another approach to the problems in medicine; that radiology is today a separate department and will someday have an endowment and a budget adequate for teaching and research purposes; and that the teaching of the principles of radio-therapy and the diagnosis and treatment of cancer cases still leaves much to be desired.

* * *

Department of Radiology, Harvard Medical School, March 1947

Merrill C. Sosman, M.D., Clinical Professor of Radiology
Max Ritvo, M.D., Assistant Professor of Radiology

Edward B. D. Neuhauser, M.D., Associate in Radiology

Laurence L. Robbins, M.D., Associate in Radiology

Richard Dresser, M.D., Instructor in Radiology

Felix G. Fleischner, M.D., Instructor in Radiology

Alexander S. MacMillan, M.D., Instructor in Radiology

Joseph H. Marks, M.D., Instructor in Radiology

Samuel A. Robins, M.D., Instructor in Radiology

Richard Schatzki, M.D., Instructor in Radiology

Milford D. Schulz, M.D., Instructor in Radiology

Lawrence Andreson, M.D., Assistant in Radiology

Henry P. Brean, M.D., Assistant in Radiology

James L. Golden, M.D., Assistant in Radiology

Martin H. Wittenborg, M.D., Assistant in Radiology

Stanley M. Wyman, M.D., Assistant in Radiology

Acknowledgement

My thanks and appreciation are hereby expressed to the 57 colleagues and friends who so generously assisted in the compilation of material for this history.

M.C.S.

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Internships Class of June 1947

Name	Service	Hospital
Adams, George C.	Medical	Duke, Durham, N. C.
Austin, Stephen D.	Rotating	Presbyterian, Chicago
Avery, John S.	Medical	Bellevue, New York
Baldwin, Warren C.	Surgical-Rotating	Henry Ford, Detroit
Beachley, Charles E., Jr.	Rotating	Pittsburgh Medical Center, Pittsburgh
Beiler, David D.	Rotating	Geisinger Mem'l, Danville, Pa.
Bell, Alfred L. L., Jr.	Medical	St. Luke's, New York
Benjamin, Bry	Rotating	Lenox Hill, New York
Bennett, Warren	Medical	Massachusetts General, Boston
Bierman, C. Warren	Rotating	Lankenau, Philadelphia
Billings, Edmund, Jr.	Surgical	Massachusetts Mem'l, Boston
Blum, Alexander	Medical	Beth Israel, Boston
Borra, Mario J.	Surgical	Boston City, Boston
Brackett, Nathaniel P., Jr.	Surgical	Boston City, Boston
Brady, Roscoe O., Jr.	Rotating	U. of Pa., Philadelphia
Braun, Harold A.	Rotating-Medical	Hartford Hospital, Hartford
Braunstein, Paul W.	Surgical	New York Hospital, New York
Brockhurst, Robert J.	Medical	Massachusetts General, Boston
Brumback, Frank E.	Rotating	University, Baltimore
Bucknam, Frank G.	Rotating	Hartford Hospital, Hartford
Butcher, Leland L., Jr.	Pediatrics	Babies, New York
Butler, Elza F.	Rotating	Missouri Methodists, St. Joseph
Carleton, Henry G.	Rotating	Presbyterian, Chicago
Carson, Paul E.	Rotating	Presbyterian, Chicago
Christopher, Ralph C., Jr.	Rotating	Charity, New Orleans
Cigarroa, Joaquin G.	Rotating	Univ. of Chicago Clinics, Chicago
Clark, Lincoln D.	Medical	Massachusetts General, Boston
Cole, Donald P., Jr.	Rotating	Mary Hitchcock Mem'l, Hanover, N. H.
Cummer, Frederick H.	Medical	Children's Hospital, Boston
Dale, Paul W.	Rotating	King County System, Seattle
Dannenberg, Arthur M., Jr.	Rotating	Jewish Hospital, Philadelphia
Davis, James M., Jr.	Surgical	Massachusetts General, Boston
Davis, Nathan S., Jr.	Rotating	Wesley Mem'l, Chicago
Deckoff, Stephen L.	Surgical	Beth Israel, Boston
deLong, Robert P.	Rotating	Lankenau Hospital, Philadelphia
Dickson, James F., III	Surgical	Boston City, Boston
Donald, Dan C., Jr.	Rotating	Charity, New Orleans
Duggan, John A.	Rotating	St. Vincent's, Worcester
Easton, Frederic W., III	Rotating	Rhode Island Hospital, Providence
Edwards, Donal C.	Rotating	Springfield Hospital, Springfield
Egloff, Frank R. L.	Rotating	Faulkner, Boston
Endsley, Fred S., Jr.	Rotating	Presbyterian, Chicago
Fisher, Bruce M.	Rotating	Alameda County, Calif.
Fister, H. William	Surgical	Albany Hospital, Albany
Follo, Paige B.	Rotating	Presbyterian, Chicago
Fowler, Fred D.	Surgical	Peter Bent Brigham, Boston
Germain, Ronald O.	Surgical	Boston City, Boston
Godwin, Harold L.	Medical	North Carolina Baptist, Winston-Salem
Goodrich, Donald W., Jr.	Rotating	Orange Memorial, Orange, N. J.
Graham, Garth K.	Medical	Boston City, Boston
Greenhouse, Charles R.	Mixed	Bellevue, New York
Grillo, Hermes C.	Surgical	Massachusetts General, Boston
Gutstein, Armin E.	Rotating	Northern Permanente Foundation, Vancouver, Wash.
Hall, Charles C.	Rotating	Cook County, Chicago
Hart, Kirby T., Jr.	Medical	Boston City, Boston
Haskins, Donald M.	Medical	Peter Bent Brigham, Boston

Service	Name	Hospital
Hoeprich, Paul D.	Medical	Peter Bent Brigham, Boston
Hopkins, Robert W.	Surgical	Massachusetts General, Boston
Hornbeck, William J.	Rotating	Harper, Detroit
Howell, David S.	Rotating	Rhode Island, Providence
Ingbar, Sidney H.	Medical	Boston City, Boston
Johnson, Edward L.	Rotating	Rhode Island, Providence
Johnston, James R.	Rotating	Western Pennsylvania, Pittsburgh
Jordan, Weldon H.	Rotating	Geisinger Mem'l, Danville, Pa.
Kennedy, B. Hughes, III	Pediatrics	Bellevue, New York
King, Jack V.	Surgical	Grady Mem'l, Atlanta
Knudsen, Robert T. A.	Medical	Johns Hopkins, Baltimore
LaBarre, Joseph E.	Rotating	St. Luke's, Cleveland
Lansing, Cornelius	Pediatrics	Massachusetts General, Boston
Larimer, Robert C.	Pathology	University Hospitals, Cleveland
Lasley, Charles H.	Surgery	Grady Mem'l, Atlanta
Licciardello, Anthony T.	Medical	Massachusetts General, Boston
Lippitt, Devereux H.	Medical	Bellevue, New York
Littlefield, John W.	Medical	Massachusetts General, Boston
MacAusland, William R., Jr.	Surgical	Strong Mem'l, Rochester, N. Y.
Mangum, Carlyle T.	Surgical	Univ. of Va. Hosp., Charlottesville
McKnight, Robert D.	Rotating	Henry Ford, Detroit
McMurrey, James D.	Medical	Peter Bent Brigham, Boston
Minkler, Donald H.	Rotating	Franklin, San Francisco
Minor, Charles L.	Surgical	Massachusetts Mem'l, Boston
Monroe, John H.	Rotating	Cincinnati General, Cincinnati
Montello, Samuel A.	Obs. & Gyn.	New York Hospital, New York
Morrison, Samuel	Rotating	Geisinger Mem'l, Danville, Pa.
O'Connor, Harrison J.	Medical	Peter Bent Brigham, Boston
Olney, John M., Jr.	Surgical	Johns Hopkins, Baltimore
Oren, William F.	Rotating	Cook County, Chicago
Orrahood, Marvin D.	Rotating	Allegheny General, Pittsburgh
Palmer, William G.	Medical	University Hospitals, Cleveland
Peete, Charles H., Jr.	Medical	Duke, Durham, N. C.
Peete, William P. J.	Surgical	Massachusetts General, Boston
Piper, Clinton A.	Surgical	Boston City, Boston
Porell, William J., II	Surgical	Massachusetts Mem'l, Boston
Prodell, John H., Jr.	Rotating	U. S. Public Health Service
Raisz, Lawrence G.	Medical	Boston City, Boston
Reynolds, Robert B.	Rotating	Billings, Chicago
Robinson, Brewster C.	Rotating	Huntington Mem'l, Pasadena
Robinson, Elliott S., Jr.	Rotating	Rhode Island, Providence
Rogerson, Alexander G.	Medical	Children's, Boston
Ross, Richard S.	Medical	Johns Hopkins, Baltimore
Rothwell, Walter S.	Rotating	Geisinger Mem'l, Danville, Pa.
Sanctuary, Richard A.	Rotating	Harper, Detroit
Sandifer, Myron G., Jr.	Medical	Massachusetts General, Boston
Scanlan, James J.	Rotating	St. Joseph's, Providence
Silverstone, Norman J.	Medical	Boston City, Boston
Shambaugh, Benjamin	Surgical	Boston City, Boston
Shannon, James M.	Surgical	Massachusetts General, Boston
Shea, John J.	Medical	Bellevue, New York
Sleisinger, Marvin H.	Medical	Beth Israel, Boston
Smith, Hugo D.	Medical	Children's, Boston
Smythe, Cheves McC.	Medical	Boston City, Boston
Spear, Harold C.	Surgical	St. Luke's, New York
Spiro, Howard M.	Medical	Peter Bent Brigham, Boston
Stevens, Arnold M.	Rotating	Philadelphia General, Philadelphia
Stevens, Kingsley M.	Medical	N. C. Baptist, Winston-Salem
Swartz, Morton N.	Medical	Massachusetts General, Boston
Tang, Yiwen Y.	Rotating	Springfield Hospital, Springfield
Taylor, W. Jape	Medical	Boston City, Boston

<i>Service</i>	<i>Name</i>	<i>Hospital</i>
Thomas, James H.	Rotating	Pennsylvania Hospital, Philadelphia
Uhl, Henry S. M.	Pathology	Johns Hopkins, Baltimore
Versaci, Armand D.	Surgical	Roosevelt Hospital, New York
Waring, William W.	Medical	Children's, Boston
Wedgwood, Ralph J. P.	Pediatrics-Medical	Bellevue, New York
West, Weldon W.	Surgical	Massachusetts General, Boston
Winn, Dean F., Jr.	Surgical	Lakeside, Cleveland
Winter, William D., Jr.	Medical	Children's, Boston
Wynne, Lyman C.	Medical	Peter Bent Brigham, Boston
Wyse, Robert J.	Rotating	King County System, Seattle
Zufall, Robert B.	Surgical	Bellevue, New York

Annual Meeting and Dinner

will be held at the

HOTEL CLARIDGE

ATLANTIC CITY

Wednesday, June 11, 1947 at 7 P M

Please make your *reservation* with the Alumni Office, 25 Shattuck Street, Boston 15, Massachusetts as we must give the hotel a definite number. *Tickets* will be sold in Atlantic City.

The National Peking Committee of Harvard Medical School

If the United States has emerged from the war with greater needs for medical care and research, it has nevertheless been able to expand its equipment and increase its ability to cope with the present need. The situation is totally different in other countries, where an even greater increase in need has been paralleled by a depletion of equipment and of facilities for care, research, and training. The situation in foreign Medical Schools is particularly acute: many teachers and research workers lost their lives in the war; many have been impelled to give up teaching and research temporarily in order to care for the great numbers of war casualties and the increase in disease due to insufficient food, inadequate housing and sanitation. For the most part, wartime made it impossible for these men to conduct research or to remain current on work being done in other countries. The depletion of equipment and of books makes the burden of teaching almost insuperable for the men remaining in the Medical School.

Students at the Harvard Medical School, aware of the past great contributions made to the common fund of medical knowledge by schools now reduced to a minimum of efficiency, recently formed a Committee to aid schools and students in war-devastated countries. It was decided to concentrate their help on a single school, while urging other American Medical Schools to undertake a similar campaign for other schools in need of aid. The National Peking Medical School, in Peking, China, which was chosen, is felt to be the one most in need of help, and one where help will be most efficacious. The situation at National Peking, is drastic, and its need is urgent: only the courage of its Staff has enabled it to survive, and to give indication that it

will again become a great institution. After nine years of war its library is almost non-existent, its buildings, laboratories, and equipment are painfully inadequate.

It has been the primary aim of the Committee to supply books and the most urgently needed items of equipment through solicitation for funds and books from students, members of the Faculty, and of the Alumni Association of the Harvard Medical School. Contributions of text-books published within the past ten years will somewhat alleviate a situation where an entire class may of necessity share a single text, or be forced to get along with none. General and specialized publications, journals and reprints of articles will be an invaluable contribution to Chinese medical men who have been almost completely cut-off from the vast contributions of American medical scientists during the war years. Books received during the campaign are being sent as quickly as possible, and the money received is being used to buy equipment unobtainable in China. A list of their most urgent needs has been supplied by the Dean.

To date nearly a thousand books, and about \$1500 have been collected. No goal has been set for the campaign . . . only as much as can possibly be obtained, to be sent as promptly as possible. Books, journals, and equipment for which you no longer have need are urgently needed in China. The Committee wishes to thank members of the Alumni Association who have contributed to this drive, and to urge others to aid in this undertaking. Checks should be made payable and books or equipment sent to: Joseph Stokes, III, Treasurer, National Peking Committee, Harvard Medical School, Boston, Massachusetts.

ATLANTIC CITY IN JUNE

Atlantic City is delightful in June. The sea breezes are gentle and cool, and the boardwalk is ready for the summer season. The hotels are prepared for a gala occasion when a host of medical authorities in all branches of science and art will convene for the Centennial Celebration of the American Medical Association.

Ogilvie of London, Duke-Elder, Mac-Kenna, Pickering, Seddon, and Sir Howard Florey will present papers during the Convention. Liljestrand of Sweden, Heymans of Belgium, Solandt of Canada, Martin of Scotland, Ducci of Chile, and Professor Robert Debre of France are likewise scheduled to appear.

The Philadelphia Festival Orchestra under its distinguished conductor, Alexander Hilsberg will give a concert of world famous classics Tuesday evening. The musical program will precede the introduction to a large audience of the distinguished foreign visitors who are to give scientific papers on the program. Foreign governments likewise are planning to send official representatives, and these guests will also be honored on Tuesday evening.

The Secretaries of the various classes who have graduated from Harvard Medical School are now in process of communicating with the members of their respective groups. The Harvard Medical Alumni dinner, which will be held on Wednesday evening, June 11, at the Claridge Hotel, should be an evening of special interest and enjoyment to all Harvard men.

The program for the Harvard dinner will contain a report from the Faculty on significant activities now going on in the School. A delicious dinner is being arranged. The necessary adjuncts will be readily available. All Harvard men who attend may look for a happy reunion.

All graduates of the Harvard Medical School will shortly receive reply postal cards with information regarding the dinner. Please return your card promptly as it is essential for us to make definite reservations with the Claridge.

REUNIONS

1902

The Class of 1902 will hold a reunion on Friday, June 20, at the Harvard Club of Boston.

The Class organization has remained active ever since graduation, holding reunions at first every five years, then every three years and of late annually. The last, in June, 1946 was attended by 28 members.

Officers are: Francis W. Palfrey, President; George W. Winchester, Secretary; James R. Torbert, Treasurer; Class Committee: John D. Adams; Robert L. De-Normandie; George M. McCoy; George C. Moore; William C. Quinby; Ralph R. Stratton; and Beth Vincent.

1907

Preliminary arrangements have been made for a dinner Tuesday, May 20th at the Harvard Club. Notices with definite details will be sent to the Class.

1912

The Class of 1912 is planning a reunion in October, 1947.

1917

Postal card vote of the Class registers 75% favoring having the thirtieth reunion at the time of the H.M.S. Alumni Meeting at Atlantic City, New Jersey, on Wednesday evening, June 11, 1947. Further details of this meeting will be mailed to each member of the Class.

1922

Reunion to be held in Boston, June 14.

1932

Reunion to be held at Cliff House, Scituate, June 14, 1947.

1937

It is now planned to have a "Reunion Dinner" of the Class of 1937 at the Harvard Club on May 17. Since this is the first chance for this class to get together since graduation, it is hoped that many will return to renew old friendships.

1939

Dinner at the Harvard Club on April 26, 1947.

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DENTAL MEDICINE

The Rockefeller Foundation, the Carnegie Corporation for the Advancement of Teaching, and the John and Mary R. Markle Foundation have united in establishing a grant to be used to stimulate interest in a critical study of dental education and to encourage experimentation in its development. Dr. A. Leroy Johnson has been appointed Consultant in Dental Education of this undertaking, with the Forsyth Dental Infirmary acting as fiscal Agent.

This announcement is a significant compliment to Dr. Johnson and to the Harvard School of Dental Medicine.

Dental Medicine represents a phase of dentistry hitherto little emphasized; defined broadly, it entails the clinical application of knowledge of diseases of the teeth obtained by technics utilized in medicine combined with those usually employed in dentistry. A successful School of Dental Medicine must assume two responsibilities: it must train students to

use the methods of medicine and dentistry in the care of patients; and it must develop investigators who not only are familiar with the problems of dental medicine but also who are capable of attacking them. Increased ability in medical matters must be combined with an acceptable training in dental restorative technics.

It is uncertain how many Schools of Dental Medicine, in contrast to Schools of Dentistry are desirable in this country; how the process of dental education should best be advanced is not clear; and how productive research in dentistry can be guided most effectively is undetermined. Yet the answer to these questions must be found if the science of dentistry is to bring to public health the important contribution that it seems able to promise.

The Foundations which have become interested in dental education have shown rare judgment in obtaining Dr. Johnson as Consultant of their forthcoming study. He came to Harvard four years ago and for the last three he served as Professor of Clinical Dentistry, Associate Dean of the Faculty of Medicine and Administrative officer of the School of Dental Medicine. In these positions he improved the organization of the latter school; he revealed some of the potentialities of dental medicine by provoking ingenious research; and he made a host of warm friends among the physicians and dentists of the two schools in which he served.

The Harvard Medical School will miss him. Yet it is consoling to realize that a member of the Harvard Medical Faculty has been selected to develop an important educational project sponsored by three such substantial Foundations as the Rockefeller Foundation, the Carnegie Corporation, and the John and Mary R. Markle Foundation. Such a silvery lining to any cloud should guarantee fair weather; that one can see crimson in it as well makes the forecast all the brighter.

Correspondence

Editor, HARVARD ALUMNI BULLETIN:

Dear Dr. Hamlin:

I don't suppose you remember me. I was in the Class of September '44.

I am writing this because I enjoy the Alumni Magazine so much. I wish more of my class would say what is happening to them. I have heard once or twice from John Wilson and correspond regularly with Alex Randall, who has just gotten married and is assistant resident of Pediatrics at U. of P. Otherwise I hear nothing. Perhaps I should mention what has happened to myself before complaining too much of others!

I returned to England in 1944 and spent 9 months as a student at St. Thomas's, London, before taking my finals at Cambridge which gave me the degree of M.B.B. Chir. This time was rather necessary as I had to sort out my ideas and reorientate myself to English clinical teaching, and learn to answer Cambridge examination questions. I passed these exams without too much difficulty tho' the obstetrics gave me a nasty moment or two and I had to remember that routine episiotomies are frowned on. However, I saved the day with a masterly description of Irving's Axis Traction forceps. In the surgical pathology I told my examiner that a mammary carcinoma, which he showed me in a bottle, originated in the ducts. When he asked me where I learned that, I glibly replied "America" and was immediately told that the Americans were responsible for all the confusion in the classification of mammary cancers! ! I was told to read Paget's original papers. The examiner proudly told me that he had seen one of Paget's original sections.

After this hurdle I got a job at St. Thomas's for three months as a Casualty Officer and then three months as a House Surgeon. At the expiry of this appointment I applied for a surgical job at St. Ormand Street Hospital for Sick Children. Here I was lucky enough to get a six month appointment as House Surgeon to Mr.

Denis Browne. I don't think I have ever met a more inspiring teacher—and that is a great compliment after being at Harvard Medical School and not meant to be in any way derogatory to Boston personalities! He taught me something every day of those six months and pulled to pieces every idea I had, making me start to think all over again and shaking even the foundations of my surgical beliefs.

When those six months were over my "call-up" came along but I asked for two months reprieve in order to study for my primary F.R.C.S. Since this is an academic exam. in anatomy, physiology and the elements of pathology, it requires a little time off to go through Gray's Anatomy and Frazer's Skeleton. During this exam, I again was most grateful for my H.M.S. experience as my first question was about sterilizing instruments, skin, etc. None of the English boys had had much teaching in this respect, but I recalled some lectures at the P.B.B.H. towards the end of second year given, I believe, by Dr. Walters. Having passed this ordeal, I joined the R.A.F. and managed to wangle a job as surgeon at Ely Hospital. This is the best R.A.F. Hospital, but is not doing very much business at the moment. Still I get a little operating to do and a fair amount of time for reading. I hope to have a shot at my final F.R.C.S. in October. Fortunately my immediate senior at Ely is another Thomas's man who has his F.R.C.S. and is working for his Master of Chirurgery degree at Cambridge. Consequently the atmosphere is stimulating and one keeps fairly up to date.

I am living out at Cambridge, which is only 17 miles from the hospital, with my wife—another result of my American sojourn! She seems to like this university town and is most tolerant of the present almost unbearable living conditions.

Yours most sincerely,
F/O Neville K. Connolly, '44
R. A. F. Hospital, Eley

